Purpose

The purpose of this policy is to define the process for the warranting, programming, designing, and installing of traffic signals. A set of application criteria is needed in order to responsibly and uniformly treat requests for traffic signal installations. This criteria must assure that traffic signals serve the public interest considering both safety and the efficient management of traffic. To this end, the Traffic and Safety Division will evaluate the operational characteristics of intersections on the State Highway System.

Policy

UDOT has, by Administrative Rule, adopted the Manual on Uniform Traffic Control Devices (MUTCD) as the Utah manual for a uniform system of traffic control devices.

Included herein are procedures for determining when traffic signals are warranted together with an explanation of plan preparation and installation of traffic signals on state highways. UDOT assumes maintenance and repair of all the traffic signals on the State Highway System and bears all expenses for their operation.

When an intersection is found to meet one or more warrants according to the MUTCD and Procedure 06C-51.1, the location may be considered for traffic signal installation as part of a future signal program. The meeting of a traffic signal warrant does not guarantee installation of a traffic signal. Other factors such as roadway geometry, traffic management, and safety shall be considered.

Installation of new traffic signals or modifications, deletions, or additions to existing traffic signals which affect the number of traffic lanes or the number or the location of signal heads may be implemented only after a traffic engineering study and field review show a need. The Engineer for Traffic and Safety shall approve all such modifications, deletions, and additions prior to their implementation.

Modernization of existing signals may be accomplished only at locations where justifiable warrants exist in conformance with the MUTCD and Procedure 06C-51.2. Signals that are no longer warranted should be removed. When a private development or another government agency necessitates the installation or modification of a traffic signal, the cost of the signal project shall be borne by the developer or appropriate government agency.

Funds from local government agencies or from private sources may be used to expedite the installation of newly warranted traffic signals or the upgrading of existing traffic signals.

When a private driveway or commercial access is requested to be signalized, the following conditions shall be met before the signal system is designed and installed:

1. The intersection created by the existing driveway or commercial access and the state highway shall meet the signal warrants outlined in the MUTCD. Projections of traffic volumes shall not be used unless verified and accepted by the UDOT Program Development Director.

2. The developer or local authority shall fund the total cost of the signal installation, including the design, right of way acquisition, and all associated roadway modifications.

3. The driveway or driveways (if on both sides of the state highway) shall be constructed to UDOT roadway intersection standards, with the cost to be borne by the developer or local authority.

4. The driveway shall become a dedicated public street with restricted access for a minimum of 200 feet into the developer's/owner's property, or a distance determined by an engineering study that is performed, or approved, by the Traffic and Safety Division.

5. An additional access from the development to another street or highway shall be provided.

If a commercial access does not meet the signal warrants, but is opposite a dedicated public street which meets the warrants, UDOT will install signal pole foundations and detection loops for the driveway only if the driveway is reconstructed to UDOT roadway intersection standards.

Procedures

Warranting a New Signal UDOT 06C-51.1

Responsibility: Region Director

Actions

1. Requests the Engineer for Traffic and Safety to conduct a traffic signal study.

Responsibility: Engineer for Traffic and Safety

2. Reviews or initiates request and forwards it to the Traffic and Safety Studies Engineer.

Responsibility: Traffic and Safety Studies Engineer

3. Initiates field studies and generates accident history reports.

4. Analyzes data collected to determine if a traffic signal warrant criteria is met.

5. If traffic signal warrant criteria is met, holds final warranting meeting with representatives from Traffic Studies, Traffic and Safety Design, Region (typically Region Traffic Engineer and sometimes Region Preconstruction). The purpose of this meeting shall be to determine if the location should be put on the warranted construction list, or if major highway modifications are necessary in conjunction with or in lieu of a signal installation. Items normally considered at the meeting include: safety, traffic management, geometric feasibility, and environmental concerns.

6. Conducts traffic simulations if determined to be necessary.

7. Places location in one of the four following categories based on the result of the signal warrant study and final warranting meeting:

   (a) Does not meet a minimum warrant for signalization.

   (b) Meets a minimum warrant and does not have major geometric problems or environmental concerns. Project concept satisfies safety and traffic management concerns. (Recommended for installation.)

   (c) Meets a minimum warrant, but is not recommended for signal installation based on safety concerns or traffic management.

   (d) Meets minimum warrant, but requires major roadway modifications to

accommodate signal.

8. If location is not warranted or not recommended for signal installation, notifies Region Director and outlines results of study and project scope meeting, if held.

9. If location meets a minimum warrant, has no major geometric problems, and satisfies safety and traffic management concerns, notifies Region Director that the location is considered warranted and provides appropriate recommendations.

Responsibility: Region Director

10. Reviews recommendations and provides comments to the Engineer for Traffic and Safety.

Responsibility: Traffic and Safety Studies Engineer

11. If warranted and Region Director concurs, adds location to warranted signal construction list and notifies Traffic and Safety Design Engineer.

Responsibility: Traffic and Safety Design Engineer

12. Packages signals from the warranted signal construction list, establishes a 9000 authority to the package, notifies Program Development of 9000 authority, and assigns each package to a Project Manager to oversee design of the package of signals.

Responsibility: Traffic and Safety Studies Engineer

13. If the signal installation meets a minimum warrant but requires major roadway modifications to accommodate a signal, forwards recommendations to Region Director for consideration as part of a future roadway project.

Responsibility: Project Manager

14. Coordinates all design and reviews in accordance with Procedure 08-1.

Responsibility: Region Construction Office

15. Conducts final inspection to verify compliance with project plans and specifications. The Region Traffic Engineer and the Signal Inspector of the ITS Division shall be invited to this inspection.

Responsibility: Traffic and Safety Design Engineer

16. Notifies accounting staff of contract completion to close out 9000 authority project account number.

Modifying an Existing Traffic Signal UDOT 06C-51.2

Responsibility: Traffic and Safety Studies Engineer

Actions

1. Receives request from the ITS Division Chief, the Engineer for Traffic and Safety or a Region Director.

2. Reviews request with respect to safety and, if in agreement with the modification, outlines scope of work on the "Request for Traffic Signal Modification" form and forwards to the Traffic and Safety Design Engineer.

Responsibility: Traffic and Safety Design Engineer

3. Reviews proposed changes and, if in agreement with the changes, packages signals that are to be modified, notifies Program Development of 9000 authority, and assigns each package to a Project Manager to oversee design of the package of signals.

4. Completes and signs "Request for Traffic Signal Modification" form. If work is to be completed by state forces, follow steps 5 - 7 below. If work is to be completed by outside contractor, follows steps 9 - 16 in Procedure 06C-51.1.

Responsibility: Traffic Management Engineer

5. Reviews "Request for Traffic Signal Modification" form and, if agreeable, schedules work.

Responsibility: Signal Supervisor

6. Notifies Region Traffic Engineer of work scheduled. Supervises work and signs off request when work is complete. Forwards signed-off request to Traffic Management Engineer.

Responsibility: Traffic Management Engineer

7. Notifies Traffic and Safety Studies Engineer and Traffic and Safety Design Engineer when work is complete.